



Community Update

Blue Mountains Slope Repairs

January 2025



Slope repair on Hawkesbury Road

A record amount of slope repair work is underway along major roads through the Blue Mountains and Hawkesbury regions.

This long-term repair work is an important investment in the communities of the Blue Mountains and regional NSW.

Funding is provided by the Australian and NSW Governments through the Commonwealth-State Disaster Recovery Funding Arrangements (DRFA).

Extreme weather events in 2021 and 2022 impacted the safety of roads in the Blue Mountains and, in some cases, forced temporary closures.

A significant amount of pavement and slope repair work has already been completed with more underway and in planning to return the Bells Line of Road, Putty Road, Hawkesbury Road and the Great Western Highway to full capacity.

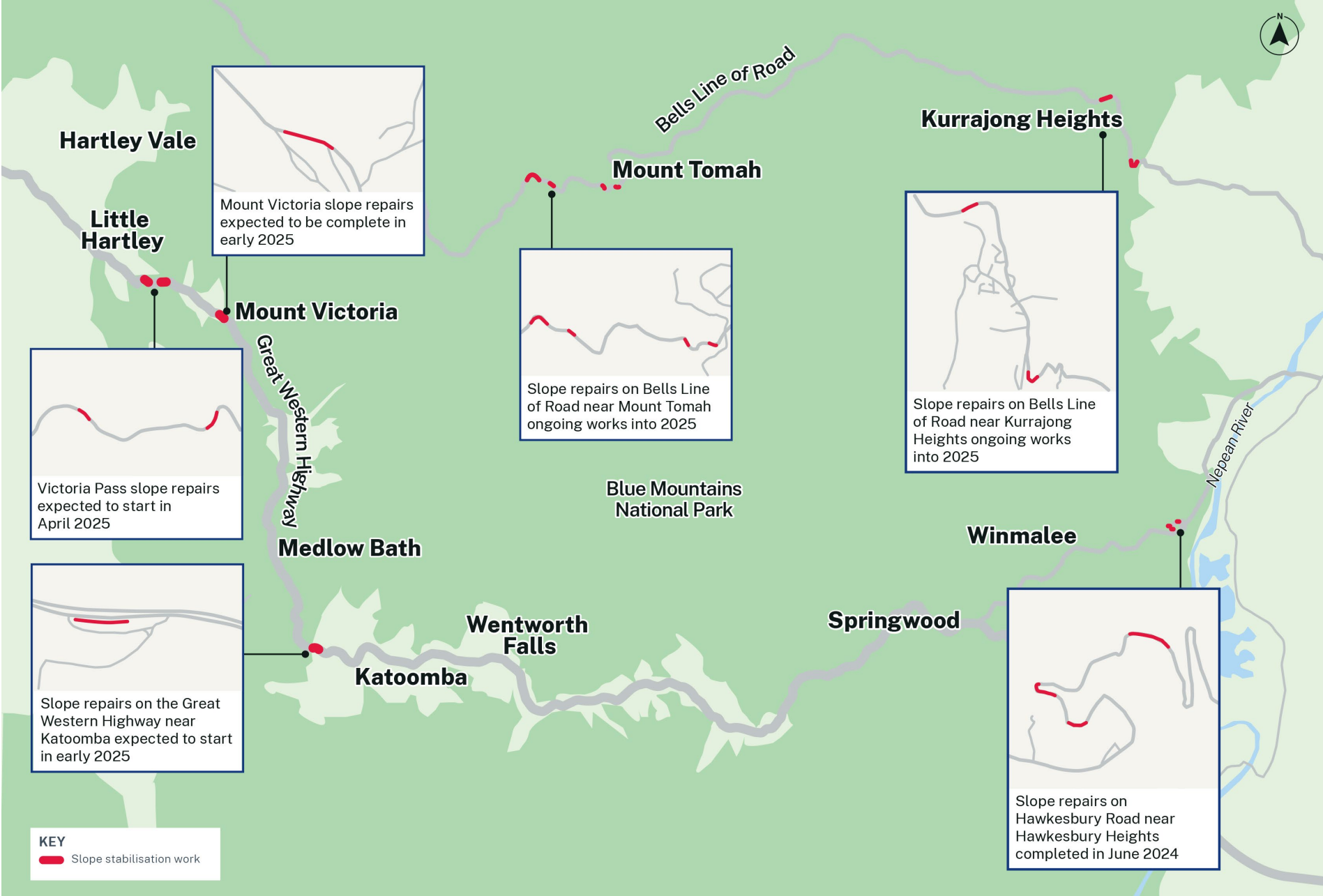
In this update

Find out about slope repair work on:

- Bells Line of Road
- Hawkesbury Road
- Great Western Highway
- Putty Road



Blue Mountains slope repair locations



Great Western Highway

The Great Western Highway is the key link between Sydney and the Central West, carrying thousands of commuters, tourists and travellers in, around and through the Blue Mountains every day.

Victoria Pass Slope Repairs

The extreme weather in 2021 and 2022 contributed to two major slope failures on the Great Western Highway at Victoria Pass, which occurred during heavy rain in July 2022.

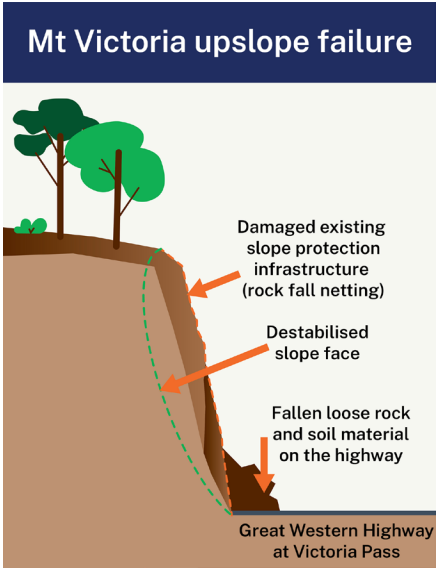
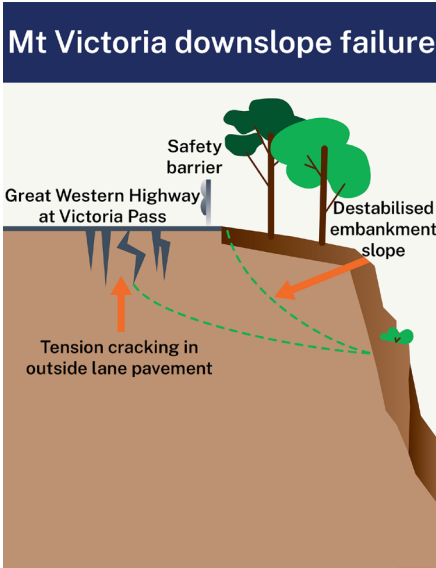
Transport has identified a downslope embankment failure of the highway to the east of the Mitchells Causeway and an upslope failure west of Mitchells Causeway. The slopes are unstable and must be repaired before the laneway is reopened.

We have carried out extensive investigation work including field and Lidar surveys and geotechnical investigations, to inform the final design.

Planning has also taken into consideration impacts on local fauna, flora, community, and heritage.

In March 2024 Victoria Pass was added to the State Heritage Register. Transport has obtained the additional heritage approvals that are needed to allow us to begin work repairing the site.

Repair work is expected to begin in April 2025, weather permitting.



Mount Victoria Slope Repairs

Transport is carrying out slope stabilisation work on the eastbound lane of the Great Western Highway near Fairy Bower Road at Mount Victoria. The work will provide a permanent fix after Transport carried out emergency stabilisation work between early in 2022.

We are installing a gabion retaining wall and drainage, replacing the guardrail, and strengthening the slope. We expect to complete this work early in 2025, weather permitting.



Constructing the gabion basket at Mount Victoria

Katoomba U-turn Bay Repairs

Transport will work to stabilise a slope around one kilometre west of Katoomba on the Great Western Highway from early 2025.

Work is expected to take around six months, weather permitting.

The U-Turn Bay will be closed to northbound heavy vehicles until the project is completed, however we will maintain access for neighboring residents via a slip lane.



Slope failure on the Great Western Highway at Katoomba

Bells Line of Road

Mount Tomah Emergency Slope Repairs

Bells Line of Road is a key link between Sydney and Western NSW, a diversion route in the event of a Great Western Highway closure, and a popular drive for tourists and Blue Mountains Botanic Garden visitors.

Extreme weather events across NSW in 2021 and 2022 damaged many areas of our road network, including major failures of Bells Line of Road near Mount Tomah.

Three major slope failures were all within one kilometre of each other along Bells Line of Road.

The severity of these failures meant that Transport had to prioritise them for immediate repairs.

Emergency repairs to these sites were completed in May 2024. Complicated repairs included clearing rocks from the slope and removing trees whose roots were growing into the slope, making it unstable.

Once the slopes were clear we used several treatments such as soil nails to reinforce the slope, gabion basket walls to provide more stability, and installed new drainage to reduce further water damage to the slopes.

After the emergency slope stabilisation and roadworks were completed, Transport landscaped the areas.

As well as providing a long-lasting solution to the unstable slopes, the works are improving safety for all road users with new road pavement and kerb, and new safety barriers.



Wire mesh draping as part of emergency slope repair works on Bells Line of Road at Mount Tomah

More slope repair works for Mount Tomah

Five more slopes were damaged by flooding in 2022 on Bells Line of Road, around two kilometres west of Mount Tomah. We are working to make the roadside slopes in this area less prone to moving and shedding loose rocks and other debris.

We thank the community and all road users for your patience while closures and reduced speed limits were in place for everyone's safety.



Installing wire mesh on Bells Line of Road at Mount Tomah

Kurrajong Heights

Transport stabilised two slopes damaged by flooding in 2022 on Bells Line of Road.

The slopes are approximately 700 metres northwest and 1.2 kilometres southeast of Kurrajong Heights.

Similar to the Mount Tomah slope repair, work at Kurrajong Heights included installing safety barriers, scaling, and removing loose rocks, drilling and installing rock bolts, applying shotcrete, and installing steel netting.

We worked to keep Bells Line of Road open during the work, which was completed at the end of June 2024.

More slope work throughout the Blue Mountains is expected to begin over the end of 2024 and into 2025 at Springwood and Katoomba near Nellies Glen.

Additional slope repair and safety upgrade works will continue along Bells Line of Road at Mount Tomah and Kurrajong Heights into 2025.

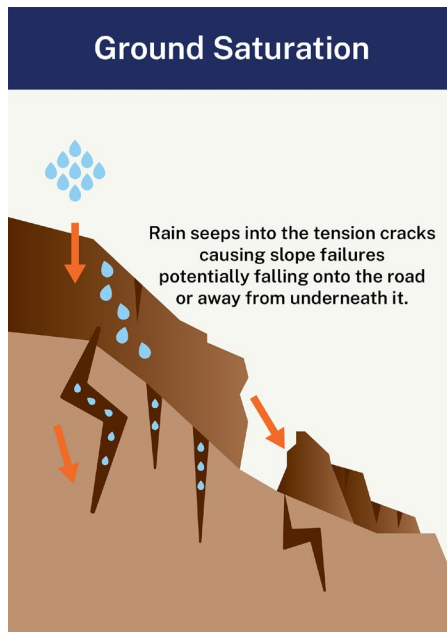
Slope failure causes and solutions

Common causes of slopes failure

Ground saturation

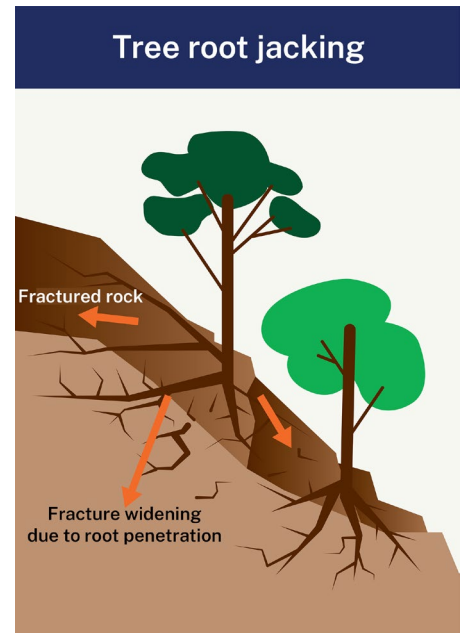
Intense or prolonged rainfall can saturate the ground cover.

The increased water can seep into cracks in the slope and cause it to fall away underneath the crack, or acts as a lubricant and allows the surface of the slope to detach and fail.



Root jacking

When the roots of trees and other vegetation grow into cracks and joints in the road cuttings, this is known as root jacking. The roots widen these cracks and joints and cause the slopes to become unstable. This is a major cause of instability in rocks and slopes.



How does Transport repair slope failures?

Steel mesh

Steel mesh is often used to prevent rock falls by capturing and controlling debris.

This can be done by 'draped mesh', which is a series of nets supported at the top of a slope, or 'anchored mesh', which is anchored to the slope using soil or rock anchors.

Shotcreting

Shotcrete is a hardwearing material that sometimes provides a better slope stabilisation than soil nails.

Work crews apply a wet mix of shotcrete to slope faces where this stabilisation method is a better solution.

Premixed cement is sprayed at high velocity onto the hard surface and/or steel mesh, increasing overall strength of the slope surface.

Shotcreting avoids the need for costly formwork and reduces waste as we can carefully control the application of the concrete.

Rock bolts

Rock bolts are used to provide active reinforcement to joints within a slope.

They transfer the load from an unstable exterior to the much stronger interior of the rock mass, helping to reduce movement of the rock face.

Vegetation removal and minimising our impacts

To ensure motorist safety, we often need to remove trees to stop root jacking and to repair and stabilise slopes.

We are committed to replanting more trees than must be removed and develop landscape designs which are implemented once all stabilisation work is completed.

We also work hard to minimise and mitigate environmental impacts. This can include:

- identifying clearance limits to minimise native vegetation removal
- holding pre-clearing inspections by ecologists
- replacing and relocating habitat
- using biodiversity offsets to address tree and hollow removal, after the full extent of local impacts have been calculated.

Hawkesbury Road

Hawkesbury Heights permanent slope repairs completed

Transport has worked to deliver much-needed permanent repairs to three slopes along Hawkesbury Road, less than one kilometre west from Roberts Parade at Hawkesbury Heights.

Three slopes on Hawkesbury Road were damaged during flooding in 2022.

This was a complex project that included installing erosion and sediment controls along the damaged slopes and setting up and packing up traffic control for each shift that the works crew were present.

The permanent repairs included removing loose rocks, installing sediment controls and safety barriers, and drilling rock bolts to secure the outer rock face to the underlying material, which provides more security.

We kept Hawkesbury Road open during work, which was completed at the end of June 2024.



Installing wire mesh on Hawkesbury Road at Hawkesbury Heights

Stay up to date with the latest news

We can keep you up to date on these slope repairs and other works in the Blue Mountains like:

- the Medlow Bath Upgrade,
- the Victoria Pass Slope Repairs
- other upcoming safety upgrades.



To subscribe to receive updates about these projects, please email bluemountains@transport.nsw.gov.au.

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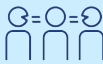
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